ABSTRACT

A method of treating a central nervous system (CNS) disorder, comprises the steps of inserting into a patient's body first and second conduits so that distal ends of the first and second conduits open to a portion of the patient's CNS with direct access to cerebrospinal fluid (CSF) and a proximal end of the first conduit opens into a first reservoir of material to be introduced into the CSF and a proximal end of the second conduit opens to drain CSF withdrawn from the CNS in combination with the steps of detecting and analyzing brain activity of a patient and determining a chemical imbalance present in the CSF by one of a microassay of a sample of CSF withdrawn from the second reservoir and the detected and analyzed brain activity. Based on the determined chemical imbalance, the patient is treated by one of supplying an agent to the CSF via the first conduit and withdrawing a quantity CSF via the second conduit. A system for treating disorders of the central nervous system (CNS), comprises first and second conduits, wherein, when in an operative position, distal ends of the first and second conduits open into a portion of a patient's CNS with direct access to cerebrospinal fluid (CSF) and wherein, when in the operative position, a proximal end of the second conduit opens to drain CSF from the CNS and a first reservoir imlpantable within the patient's body and holding material to be introduced to the CNS in combination with a first pump coupled to the first reservoir and the first conduit for introducing the material to the CNS via the first conduit and a brain wave detection unit for detecting and analyzing brain waves of the patient.